Globelics

Plenary Session

The new Latin-American model: challenges of science, technology and innovation for development

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Issues for the debate

For more than three decades now –at different times and with varying degree of success– Latin American countries have introduced market-oriented structural reforms, opening up their economies to foreign competition, de-regulating markets, and privatising economic activities. The above actions involved a major departure in economic policy regime from the 'inward-oriented', 'state-led' regime, which prevailed in the immediate post-war period. The new policies –together with the rapid process of globalisation of the world economy that obtained throughout the 1990's– induced a major transformation of the economic, institutional and technological environment of each one of the countries in the region.

Neoclassical lens are not really useful for the understanding of the impact of said changes. Modern growth theory is specified in terms of an institution-free, equilibrium algorithm, in which macro-to-micro interactions, changes in the structure of the economy, the co-evolution of economic, institutional and technological forces and the process of creation and destruction of production organization capabilities that obtains as a result of a major transformation of the production structure, can not be adequately studied. Looking at aggregate growth performance does not make much of a sense in Latin America if we are to understand the evolution of domestic technological capabilities over the past twenty years.

New sectors of economic activity have emerged in the economy throughout the 1990's, while many 'old' ones have been gradually phased out, with the structure of the economy suffering significant changes. Labour expulsion has taken place both from manufacturing and agriculture and both unemployment and the informal sector of the economy have expanded in most countries in the region.

Different forms of computer-based production organisation routines have been adopted by the larger firms – many of them subsidiaries of MNCs, or owned by domestic conglomerates– displacing more labour intensive technologies. Most SMEs, however, have not been able to follow the same path. Thousands of them were forced to exit the market – estimates being that around 8 thousand closed down in Chile and more than 12 thousand did so in Argentina during the 1980´s. The large majority of those that remained in business found themselves 'lagging behind' 'large' firms as far as productivity growth is concerned.

Even though the reforms have not been able to deliver what was a priori expected from them in terms of an across-the-board improvement in economic performance, it is nevertheless true that in each and every country in the region a modern sector of economic activity has emerged over the last two decades. The size of said sector, however, varies across nations –involving some 40% of GDP in the richest countries in the region, and not much more than, say, 10% in the poorest ones. This modern sector includes new natural resource processing activities now carried out using world class technologies – such as genetically modified soja beans and vegetable oil in Argentina, salmon farming and wine production in Chile, fresh flowers in Colombia, and many others, high productivity service industries including banks, telecoms, energy and tourism; and a few technology intensive activities, such as airplanes design and construction in Brazil.

Average labour productivity, however, has increased at a much smaller pace. As a result of that the reduction of the productivity gap these countries exhibit vis a vis more developed industrial nations still continues to be an unfulfilled promise. The (small) fraction of society that belongs in the modern area of the economy receives much higher than average income and has gradually developed consumption patterns comparable to those exhibited by the large majority of the citizens in more developed industrial nations, but income differentials between rich and poor walks of society have expanded dramatically.

With the inception of new activities in the modern part of the economy institutions and production organization capabilities have changed significantly. This is a process that involves ubiquitous externalities and new forms of ´clustering´ featuring direct interactions between economic agents which can not be well described in the ´arm-length´ language of received price theory. New entrepreneurial groups, new forms of cooperation between public sector regulatory bodies and companies and new competitive capabilities emerged in the economy resulting in exports of new products and in new firms entering into export activities.

In spite of the above, however, the process of structural change and technological transformation has not been strong enough for countries globally to improve in their international status. Research and development expenditure continues to be just a fraction – one quarter - of what DCs and South Éast Asian nations allocate for the creation of new technologies, and the diffusion of ICTs and the transition to a knowledge-based economy are still in its infancy. The rate of utilization of the internet and of computer-based SCM and CRM (supply chain and customer relationship management) in the business sector of the economy is just beginning, with the large majority of SMEs not yet involved in the process of transition to a digital economy. E-government and e-learning are also incipient.

Lack of public goods inducing innovation, the diffusion of technology and the adoption of computer-based routines among SMEs and government offices, can be identified as part of the explanation of a poor average performance. A growing digital gap can be presently noticed between the small fraction of society connected to the web and the much larger one excluded from such connection. A pro-active government strategy and public-private efforts addressing the creation and diffusion of new technologies, the inception of new more knowledge intensive firms in the econmy, and a faster transition to

ICTs, seems to be presently needed if the region is to perform better in the years to come. A large ´window of opportunity´ has now opened as a result of the so called ´China effect´ with the fiscal and external accounts of many economies in the region looking stronger than at any previous point over the past three decades. The resources are available for countries to experiment a more audacious and ´hands-on´ strategy inducing the erection of more value added intensive activities in the economy. Ubiquitous public goods and institutions related to innovation and to the diffusion of technology and ICTs are needed for such purpose. A policy agenda to proceed in that direction needs to be urgently discussed.